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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

FOREST INSECT INVESTIGATIONS

Project	Date	Author
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SUBJECT—

TITLE

FOREST INSECT SURVEY - SEASON OF 1943

STANISLAUS NATIONAL FOREST

by

J. E. Patterson and G. R. Struble

Forest Insect Laboratory
341 Giannini Hall, U. C.
Berkeley 4, California
June 6, 1944

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FOREST INSECT SURVEY - SEASON OF 1943

STANISLAUS NATIONAL FOREST

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INTRODUCTION

The forest insect survey of the Stanislaus National Forest is made each year by the Forest Insect Division, Bureau of Entomology and Plant Quarantine. Its purpose is to determine the amount of insect-caused loss mainly by bark beetles to timber of commercial value on federal, state, and private lands; to inform the Forest Service of conditions found; to recommend control work when necessary on areas where aggressive killing is going on; and to render advice on control projects undertaken. The information obtained as a result of these surveys is used also by the Forest Insect Division for research purposes to determine the trend of infestations from year to year.

The 1943 insect survey was made during the first week in October by John E. Patterson and George R. Struble of the Berkeley forest insect laboratory. Because of mileage restrictions and limitations in personnel the 1943 survey left much to be desired in a complete coverage of the forest. The general downward trend of losses over the forest as a whole, however, justified the rather sketchy coverage that was made. Loss estimates were based mainly on roadstrip counts and reconnaissance counts from high vantage view points.

TREND OF INFESTATIONS

The 1943 infestation as compared with that of the previous year was generally downward, over the forest as a whole, but in a few areas there was evidence of slightly increased activity. In the Mokelumne area, for example, there was some increase in insect activity as evidenced by the occurrence of scattered small groups of faded trees, particularly near the crests of ridges. Many of these trees, however, had been damaged previously by the wind and served as attraction centers to beetles. In recently logged areas in the vicinity of Berkeley Hill and Sawmill Mtn. there were some faded trees which were killed, evidently as a result of insects which were able to breed in slash left in the woods. In the Pinecrest area and northward as far as Niagara Creek, the infestation was reduced greatly from the situation current in 1941 and 1942. (Control work undertaken in this vicinity during the spring 1943 doubtless had much to do with the reduction here.) Elsewhere infestations were decidedly endemic.

INSECTS INVOLVED

In ponderosa pine stands the western pine beetle, Dendroctonus brevicomis, was most prevalent. Some evidence of topkilling by Ips was noted, but this insect was not doing a great deal of damage. Except in the Mokelumne area, the infestation of each species occurred in trees widely separated from each other.

In sugar pine, the mountain pine beetle, Dendroctonus monticolae, was evident; but infestations by this species generally over the forest were less than in 1943.

The Jeffrey pine beetle, Dendroctonus jeffreyi, was less evident in the Dardenelle and Smoothwire areas than in 1942.

Losses in white fir by the fir engraver beetle, Scolytus ventralis, were sustained at low level.

MEASURED PINE LOSSES

In Table 1 a comparison is made between 1942 and 1943 losses in road-strip sample areas. This record is evidence of a slightly upward trend in infestations in the Mokelumne area and a downward trend elsewhere.

Table 1. Recorded pine losses on roadside strips in 1942 and 1943.

Entomological Unit	Sample Strip	Acres	LOSS IN 1942 No. of trees	Volume BM	Vol. BM/AC	LOSS IN 1943 No. of trees	Volume BM	Vol. BM/AC
1 Hermit Springs	RD 1	236	5	3,200	13	5	3,170	13
2 Blue Mountain	RD 2	120	0	0		3	8,180	67
3 Dorington	RD 3	296	1	2,200	8	2	8,460	29
8 Niagra	RD 4	216	2	2,010	10	3	1,250	6
9 Pinecrest	RD 5	168	3	16,580	100	2	4,020	24
9 Pinecrest	RD 6	92	0	0		0	0	
9 Pinecrest	RD 7	56	0	0		0	0	
9 Pinecrest	RD 8	88	1	2,750	31	1	3,490	40
18 Buck Meadows	RD 9	268	1	550	2	1	470	2
Totals		1,542	13	27,290	17	17	29,040	19

RECOMMENDATIONS

No control work is necessary in any area on this forest. Insect conditions generally are in a low endemic status. The situation as found in the highly valuable stands of the Mokelumne area demands watching to determine any undue increases in the present trend of infestations. The situation in this area will require greater attention because of the logging activity underway near Dorrington and Westpoint. Although infestations were very low in the Calaveras and Clavey-Jawbone areas, the logging activity there also is reason for some vigilance to note any increases in insect activity.

NEW SURVEY MAP - PROPOSED REPORTING AREAS AND ENTOMOLGICAL UNITS

For some time there has been a need for changes in the present survey coverage of the Stanislaus National Forest. Changes in the status of many of the areas from virgin to cutover lands of necessity has modified

the emphasis on insect survey coverage and control. The remaining virgin pine areas are economically the most important from the insect standpoint, and because of this demand the most intensive insect survey coverage; but there are also problems among the second growth stands which often require some attention. This is also true of fir and lodgepole pine stands. Consequently, general insect survey coverage of areas other than the virgin pine stands is an important part of the Stanislaus Forest insect survey, but on such areas there is little need for more than a reconnaissance type of survey.

To facilitate the survey coverage necessary under a given situation, the map included at the end of this report has been prepared to designate the sub-divisions which are believed to be a definite improvement over previously established reporting units. In this set up, there are seven reporting areas, each comprising the principal drainage basins. These are sub-divided into entomological units varying in number for each area and totalling 18 units for the forest.

Tables 2, 3 and 4 which follow present data on timbered acreage and stand composition for each of the proposed reporting areas and entomological units. Table 2 gives a general estimate of the total acreage, timbered acreage and composition by reporting areas. Table 3 presents approximate figures on timbered acreage and pine stand volume per acre for each entomological unit. Table 4 presents the approximate composition of stand on each entomological unit expressed as percent of tree species represented.

Table 2. Reporting Areas - Acreage and Stand Composition, Stanislaus N.F.

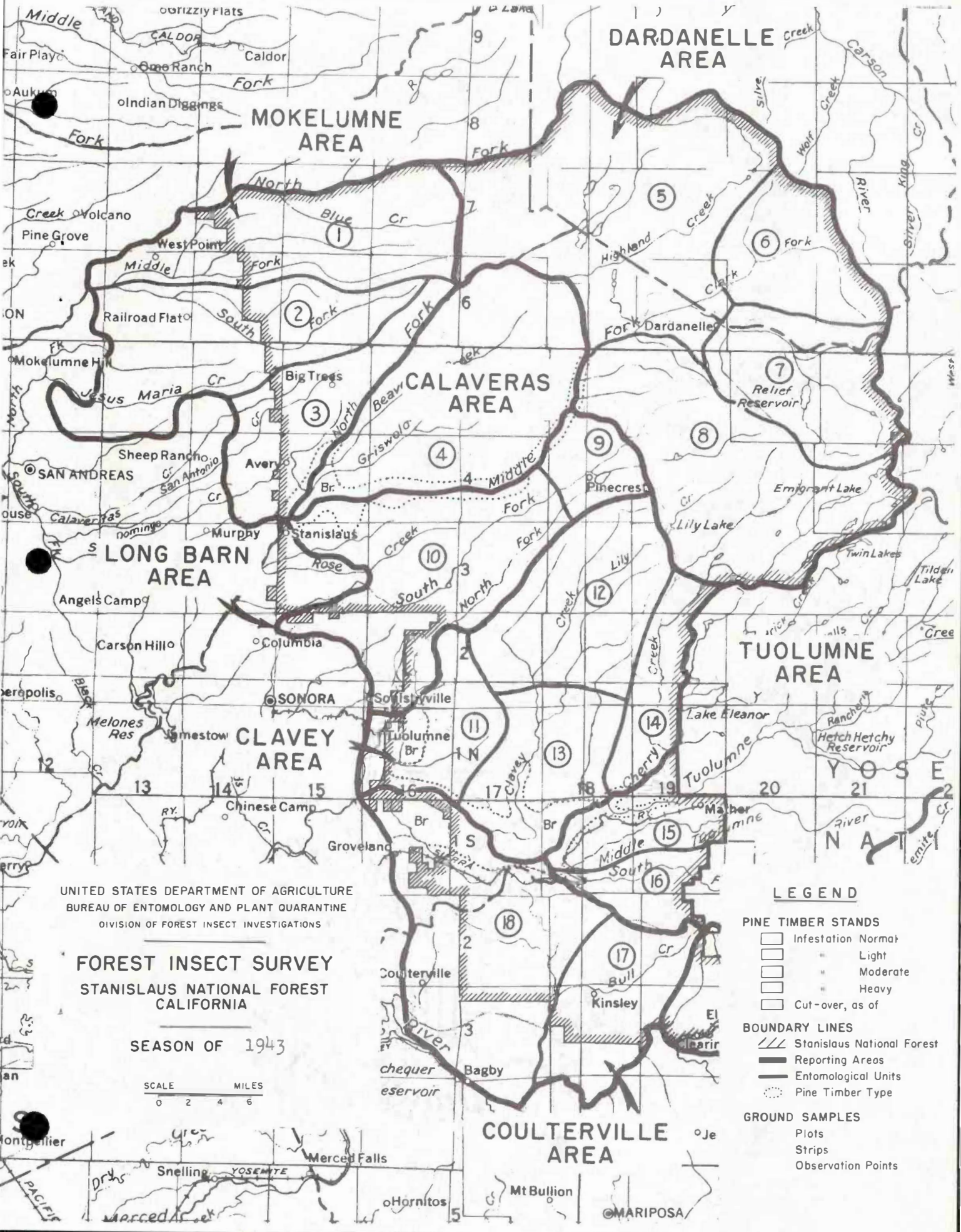
Reporting Area	Total Acreage	Timbered Acreage	Stand Composition
A Mokelumne	202,000	150,000	PP-SP-IC-WF
B Calaveras	90,000	64,000	PP-SP-IC-WF
C Dardanelle	236,000	160,000	JP-WF-RF
D Long Barn	110,000	93,000	PP-SP-JP-IC-WF
E Clavey	150,000	110,000	PP-SP-JP-IC-WF
F Tuolumne	40,000	29,000	PP-SP-IC-WF-DF
G Coulterville	140,000	76,000	PP-SP-IC-WF-DF
Totals	968,000	682,000	

Table 3. Pine stands on reporting areas and entomological units - Stanislaus N. F.

Area	Entomological Unit		Timbered Acreage	Pine Stand per acre	Pine Stand MBM Unit Total	Pine Stand MBM Area Total
A	1	Hermit Springs	55,000	15,000	825	
	2	Blue Mountain	58,000	14,000	812	
	3	Dorington	37,000	16,000	592	
			150,000			2,229
B	4	Griswold	64,000	14,000	896	896
C	5	Highland	83,000	6,000	498	
	6	Clarks Fork	20,000	6,000	120	
	7	Brightman	25,000	6,000	150	
	8	Niagra	32,000	12,000	384	
						1,152
D	9	Pinecrest	10,000	14,000	140	
	10	Mt. Knight	83,000	14,000	1,162	
						1,302
E	11	Westside	32,000	14,000	448	
	12	Dodge	39,000	12,000	468	
	13	Jawbone	26,000	14,000	364	
	14	Cherry Valley	13,000	12,000	156	
			110,000			1,436
F	15	Mather	13,000	15,000	195	
	16	South Fork	16,000	20,000	320	
						515
G	17	Bull Creek	25,000	5,000	125	
	18	Buck Meadows	51,000	5,000	255	
			76,000			380
Area Totals			682,000			7,910

Table 4. Composition of timber stands - Percentage of species, Stanislaus National Forest.

Area		Entomological Unit	Percentage of Tree Species PP	SP	JP	LP	IC	WF-RF-DF
A	1	Hermit Springs	60	15	3		10	12
	2	Blue Mountain	60	20	3		10	7
	3	Dorington	50	20	5		10	15
B	4	Griswold	50	12	15		10	13
C	5	Highland		2	40	10		38
	6	Clarks Fork		2	40	10		38
	7	Brightman	5	5	50	10		30
	8	Niagra	15	20	40	2		23
D	9	Pinecrest	15	40	25		5	15
	10	Mt. Knight	40	40			10	10
E	11	Westside	60	20	5		5	10
	12	Dodge	20	20	40		5	15
	13	Jawbone	40	20	10		5	25
	14	Cherry Valley	20	20	40	10		10
F	15	Mather	55	25	5		5	10
	16	South Fork	60	20			5	15
G	17	Bull Creek	50	25	3		15	7
	18	Buck Meadows	80	12			5	3
		Averages for Area	41%	18%	15%	2%	5%	19%



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DIVISION OF FOREST INSECT INVESTIGATIONS

FOREST INSECT SURVEY

STANISLAUS NATIONAL FOREST
CALIFORNIA

SEASON OF 1943

SCALE MILES
0 2 4 6

LEGEND

PINE TIMBER STANDS
- Infestation Normal
- " Light
- " Moderate
- " Heavy
- Cut-over, as of

BOUNDARY LINES
- Stanislaus National Forest
- Reporting Areas
- Entomological Units
- Pine Timber Type

GROUND SAMPLES
- Plots
- Strips
- Observation Points